AMENDMENTS TO THE CLAIMS

1.   (Currently Amended) A method for reducing the resolution of media data, said method comprising:

accessing compressed input data for a frame of a plurality of frames, wherein said frame is at a first resolution and comprises a plurality of macroblocks, wherein said plurality of macroblocks comprises a plurality of subsets ~~subset~~ of macroblocks that [[is]] are to be encoded as a single output macroblock;

selecting a data processing function according to the number of macroblocks in [[said]] a subset of said plurality of subsets that are characterized as intra-coded, wherein said selecting is performed for each of said plurality of subsets;

if less than all of said macroblocks in said subset are characterized as intra-coded and if said number of macroblocks in said subset characterized as intra-coded satisfies a threshold, downsampling said subset of macroblocks to generate said output macroblock comprising compressed downsampled data at a second resolution that is reduced relative to said first resolution, wherein said accessing, selecting and downsampling are performed prior to transmitting over a wireless network; and

transmitting said output macroblock comprising compressed downsampled data to a wireless device over said wireless network.

2.   (Original) The method as recited in Claim 1 wherein said input data comprise motion vectors, wherein said method comprises:

generating motion vectors for said frame at said second resolution using said motion vectors from said input data.

3.   (Original) The method as recited in Claim 2 wherein said motion vectors for said frame at said second resolution are generated by averaging said motion vectors from said input data.

4.   (Original) The method as recited in Claim 1 wherein said input data are compressed according to a discrete cosine transform-based compression scheme, wherein said input data comprise discrete cosine transform (DCT) coefficients.

5.   (Original) The method as recited in Claim 4 comprising:
generating an output data stream comprising said frame at said second resolution; and
determining a bit rate for said output data stream using said DCT coefficients from said input data.

6.   (Original) The method as recited in Claim 5 wherein said input data are encoded according to a first compression scheme and said output data stream are encoded according to a second compression scheme.

7.   (Previously Presented) The method as recited in Claim 1 wherein said media data are selected from the group consisting of: video data, audio data, image data, graphic data, and web page data.

8.   (Currently Amended) A method for reducing the resolution of media data, said method comprising:
accessing input data comprising compressed data for a plurality of macroblocks, wherein said plurality of macroblocks comprises a plurality of subsets subset of macroblocks that [[is]] are to be encoded as a single output macroblock and wherein a macroblock is characterized as a first coding type if

said macroblock is dependent on a macroblock from a reference frame and is otherwise characterized as a second coding type;

selecting data processing functions according to the number of macroblocks in [[said]] a subset of said plurality of subsets that are characterized as said first coding type and also according to the number of macroblocks in said subset that are characterized as said second coding type, wherein at least one of said processing functions comprises downsampling compressed data in the discrete cosine transform (DCT) domain, wherein said selecting is performed for each of said plurality of subsets;

generating said output macroblock from said plurality of macroblocks using said data processing functions, said output macroblock providing a reduced resolution relative to said input data, wherein said accessing, selecting and generating are performed prior to transmitting over a wireless network; and

transmitting said output macroblock comprising compressed downsampled data to a wireless device over said wireless network.

9.   (Original) The method as recited in Claim 8 comprising:

determining a coding type for said output macroblock according to the number of macroblocks characterized as said first coding type and the number of macroblocks characterized as said second coding type; and

selecting said data processing functions according to said coding type of said output macroblock.

10.   (Previously Presented) The method as recited in Claim 9 wherein, if said output macroblock is characterized as said first coding type, said data processing functions comprise:

constructing a predicted macroblock for each macroblock in said subset of macroblocks by applying motion compensation to a respective macroblock

in a reference frame, wherein said constructing comprises a decoding function such that said predicted macroblocks comprise decompressed data;

downsampling predicted macroblocks to generate a downsampled macroblock; and

encoding said downsampled macroblock to generate said output macroblock.

11.   (Previously Presented) The method as recited in Claim 8 wherein, if all of said plurality of macroblocks are characterized as said second coding type, said data processing functions comprise:

downsampling said subset of macroblocks to generate said output macroblock comprising compressed downsampled data.

12.   (Original) The method as recited in Claim 11 comprising:

decoding said compressed downsampled data to generate decompressed downsampled data; and

upsampling said decompressed downsampled data.

13.   (Canceled).

14.   (Previously Presented) The method as recited in Claim 8 wherein, if the number of macroblocks in said subset characterized as said second coding type satisfies a first threshold, said data processing functions comprise:

constructing a predicted macroblock for each macroblock in said subset of macroblocks characterized as said first coding type by applying motion compensation to a respective macroblock in a reference frame, wherein said constructing comprises a decoding function such that a predicted macroblock comprises decompressed data;

encoding each predicted macroblock; and

downsampling predicted macroblocks and said macroblocks characterized as said second coding type to generate said output macroblock comprising compressed downsampled data.

15.   (Original) The method as recited in Claim 14 comprising:

decoding said compressed downsampled data to generate decompressed downsampled data; and

upsampling said decompressed downsampled data.

16.   (Original) The method as recited in Claim 8 wherein said input data comprise motion vectors, said method comprising:

generating a motion vector for said output macroblock by averaging said motion vectors.

17.   (Original) The method as recited in Claim 8 wherein said input data are compressed according to a discrete cosine transform-based compression scheme.

18.   (Original) The method as recited in Claim 17 comprising:

generating a quantization parameter for said output macroblock using quantization parameters for said plurality of macroblocks.

19.   (Currently Amended) A system for reducing the resolution of media data, said system comprising:

an input buffer adapted to receive compressed input data at a first resolution, said compressed input data comprising data for a plurality of macroblocks, wherein said plurality of macroblocks comprises a plurality of subsets subset of macroblocks that [[is]] are to be encoded as a single output

macroblock and wherein a macroblock is characterized as a first coding type if said macroblock is dependent on a macroblock from another frame and is otherwise characterized as a second coding type;

a mode selector coupled to said input buffer, said mode selector adapted to select a data processing function according to the number of macroblocks in [[said]] a subset of said plurality of subsets that are characterized as said first coding type and the number of macroblocks in said subset that characterized as said second coding type, wherein said selecting is performed for each of said plurality of subsets;

a downsampler coupled to said mode selector, said downsampler adapted to downsample said compressed input data and generate compressed downsampled data at a second resolution that is reduced relative to said first resolution;

a relay coupled to said mode selector, said relay adapted to transmit said compressed downsampled data to a wireless device over said wireless network, wherein said subset of macroblocks is directed by said mode selector to said downsampler if less than all of said macroblocks in said subset are characterized as intra-coded and if said number of macroblocks characterized as intra-coded exceeds a threshold, wherein otherwise said subset of macroblocks is directed by said mode selector to said relay; and

a decoder coupled to said wireless device, said decoder adapted to decode said compressed input data and generate decompressed data.

20.   (Canceled).

21.   (Original) The system of Claim 19 comprising:

a motion vector generator coupled to said input buffer, said motion compensator adapted to generate motion vectors for a frame at said second resolution using motion vectors from said input data.

22.   (Original) The system of Claim 19 comprising:

a rate controller coupled to said input buffer, said rate controller adapted to determine a quantization step size for a frame at said second resolution according to quantization parameters from said input data.

23.   (Original) The system of Claim 19 wherein said input data are compressed according to a discrete cosine transform-based compression scheme, wherein said input data comprise discrete cosine transform (DCT) coefficients.

24.   (Previously Presented) The system of Claim 19 wherein said media data are selected from the group consisting of: video data, audio data, image data, graphic data, and web page data.

25.   (Currently Amended) A computer- readable medium having computer-readable program code embodied therein for causing a computer system to perform a method comprising:

accessing compressed input data residing in a buffer, said compressed input data comprising compressed data for a frame of a plurality of frames, wherein said frame is at a first resolution and comprises a plurality of macroblocks, wherein said plurality of macroblocks comprises a plurality of subsets subset of macroblocks that [[is]] are to be encoded as a single output macroblock;

selecting a data processing function according to the number of macroblocks in [[said]] a subset of said plurality of subsets that are characterized as intra-coded, wherein said selecting is performed for each of said plurality of subsets;

if less than all of said macroblocks in said subset are characterized as intra-coded and if said number of macroblocks in said subset characterized as intra-coded satisfies a threshold, generating compressed downsampled data by downsampling said subset of macroblocks, said compressed downsampled data at a second resolution that is reduced relative to said first resolution, said compressed downsampled data used to generate said output macroblock;

decoding said compressed downsampled data to generate decompressed downsampled data at said second resolution;

upsampling said decompressed downsampled data to generate decompressed data at a resolution corresponding to said first resolution, said decoding and said upsampling performed only if said decompressed data are needed as a reference for another frame, wherein said accessing, selecting, downsampling and upsampling are performed prior to transmitting over a wireless network; and

transmitting said output macroblock comprising compressed downsampled data to a wireless device over said wireless network.

26.   (Previously Presented) The computer-readable medium of Claim 25 wherein said computer-readable program code embodied therein causes a computer system to perform a method comprising:

accessing motion vectors for said frame at said first resolution; and

deriving motion vectors for said frame at said second resolution from said motion vectors for said frame at said first resolution.

27.   (Previously Presented) The computer-readable medium of Claim 26 wherein said motion vectors for said frame at said second resolution are generated by averaging said motion vectors for said frame at said first resolution.

28.   (Previously Presented) The computer-readable medium of Claim 25 wherein said input data are compressed according to a discrete cosine transform-based compression scheme, wherein said input data comprise discrete cosine transform (DCT) coefficients.

29.   (Previously Presented) The computer-readable medium of Claim 25 wherein said computer-readable program code embodied therein causes a computer system to perform a method comprising:

accessing quantization parameters for said frame at said first resolution; and

deriving quantization parameters for said frame at said second resolution from said quantization parameters for said frame at said first resolution.